

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-44 (canceled)

Claim 45 (currently amended): A method for producing a protein by *in vitro* translation, comprising:

- a) preparing a *Drosophila* embryo cell extract by a method comprising dechorionating *Drosophila* embryos in an aqueous isotonic solution comprising detergent and bleach;
- b) adding an exogenous ribonucleic acid template having both a 5' cap and a 3' poly A tail to a translation mix in the presence of said *Drosophila* embryo cell extract to form a reaction mix; and
- a)c) incubating an animal said reaction mix cell extract with a-said exogenous ribonucleic acid template having both a 5' cap and a 3' poly A tail under conditions such that translation of said exogenous ribonucleic acid template produces an encoded protein; and
- b) producing said encoded protein in an amount greater than the total of
 - i) the amount of encoded protein that is produced from a corresponding ribonucleic acid template having a 5' cap but no 3' poly A tail, plus
 - ii) the amount of encoded protein that is produced from a corresponding ribonucleic acid template having a 3' poly A tail but no 5' cap.

Claims 46-51 (canceled)

Claim 52 (currently amended): The method of claim ~~54~~ 45, wherein said detergent is Triton X-100 and said bleach is sodium hypochlorite.

Claim 53 (currently amended): The method of claim ~~54~~ 45, further comprising after dechorionation, the steps of washing said embryos, homogenizing said embryos to produce a homogenate, centrifuging said homogenate, and recovering a *Drosophila* embryo cell extract as the non-pelleted material from said centrifuged homogenate.

Claim 54 (previously presented): The method of claim 52, further comprising after dechorionation, the steps of washing said embryos, homogenizing said embryos to produce a homogenate, centrifuging said homogenate, and recovering non-pelleted material from said centrifuged homogenate.

Claim 55 (cancelled)

Claim 56 (cancelled)

Claim 57 (currently amended): The method of claim 45, wherein said ~~conditions~~ comprise translation mix comprises the presence of creatine phosphate, creatine kinase, potassium and magnesium salts, spermidine, amino acids, ~~a reducing agent~~, and tRNA.

Claim 58 (currently amended): The method of claim 45, wherein said ~~conditions~~ comprise incubating is at a temperature between about 18 degrees Celsius ~~to and~~ about 37 28 degrees Celsius.

Claim 59 (currently amended): The method of claim 58, wherein said ~~conditions~~ comprise incubating is at a temperature of about 25 degrees Celsius.

Claim 60 (cancelled)

Claim 61 (previously presented): The method of claim 60, wherein said incubating is for at least 90 minutes.

Claim 62 (new): The method of claim 57, further comprising Mg(OAc)₂.

Claim 63 (new): The method of claim 57, further comprising K(OAc).

Claim 64 (new): The method of claim 57, further comprising DTT.

Claim 65 (new): A method for producing a protein by *in vitro* translation, comprising:

- a) producing a Hela cell extract by a method that comprises:
 - i) harvesting Hela cells grown in culture,
 - ii) centrifuging said Hela cells,
 - iii) resuspending said Hela cells in a hypotonic buffer,
 - iv) lysing said Hela cells using a homogenizer to create a Hela cell homogenate,
 - v) centrifuging said Hela cell homogenate for five minutes or less, and
 - vi) removing the supernatant of the centrifuged homogenate to obtain a Hela cell extract; and
- b) incubating said Hela cell extract with an exogenous ribonucleic acid template having both a 5' cap and a 3' poly A tail under conditions such that translation of said ribonucleic acid template produces an encoded protein.

Claim 66 (new): The method of claim 65, wherein said hypotonic buffer comprises Hepes, pH 7.6, KOAc, Mg(OAc)₂, and dithiothreitol.

Claim 67 (new): The method of claim 65, wherein said centrifuging in step v) is at about 14,000 x g.

Claim 68 (new): The method of claim 65, wherein said Hela cell extract is not treated with a nuclease.

Claim 69 (new): The method of claim 65, wherein said conditions in part b) comprise the presence of creatine phosphate, creatine kinase, potassium and magnesium salts, spermidine, amino acids, Hepes, pH 7.6, KOAc, Mg(OAc)₂, and tRNA.

Claim 70 (new): The method of claim 69, further comprising DTT.

Claim 71 (new): The method of claim 69, further comprising ATP.

Claim 72 (new): The method of claim 69, further comprising GTP.

Claim 73 (new): The method of claim 65, wherein said incubating is at a temperature of about 37 degrees Celsius.

Claim 74 (new): The method of claim 65, wherein said incubating is for at least 25 minutes.

Claim 75 (new): The method of claim 74, wherein said incubating is for at least 45 minutes.

Claim 76 (new): The method of claim 75, wherein said incubating is for at least 90 minutes.